

WHAT IS CLAIMED IS:

1. A method for filling a bag with an alcohol beverage comprising the steps of:
inflating the bag with an inert gas for the beverage;
filling the inflated bag with the beverage; and,
venting the inert gas from the bag.
2. The method of Claim 1 wherein the inert gas is CO₂.
3. The method of Claim 1 wherein the beverage is beer.
4. The method of Claim 1 wherein the inert gas is vented from the bag during the step of filling the inflated bag with the beverage.
5. A method of filling and dispensing an alcohol beverage from a bag contained in a container, the method comprising the steps of:
inflating the bag with an inert gas selected from gasses that do not adversely react with the beverage;
filling the inflated bag with the beverage;
venting the inert gas from the bag; and,
applying a gas under pressure into the container against the bag to facilitate dispensing of the beverage from the bag.
6. The method of Claim 5 wherein the inert gas is CO₂.
7. The method of Claim 5 wherein the beverage is beer.
8. The method of Claim 5 wherein the inert gas is vented from the bag during the step of filling the inflated bag with the beverage.
9. The method of Claim 5 wherein the step of inflating the bag inflates the bag to a volume corresponding to that of the container.
10. The method of Claim 9 wherein the step of inflating the bag brings the bag into contact with inside walls of the container.
11. The method of Claim 5 wherein the container is a beer keg that supports the bag relative thereto.
12. A method of filling an alcohol beverage into a bag contained in a container, the method comprising the steps of:
evacuating the container of air located between the container and the bag;
inflating the bag with an inert gas selected from gasses that do not adversely react with the beverage;
filling the inflated bag with the beverage; and,

venting the inert gas from the bag.

13. The method of Claim 12 wherein the step of evacuating the bag of air continues during the step of inflating the bag with an inert gas.

14. The method of Claim 12 wherein the inert gas is CO₂.

15. The method of Claim 12 wherein the beverage is beer.

16. The method of Claim 12 wherein the inert gas is vented from the bag during the step of filling the inflated bag with the beverage.

17. The method of Claim 12 wherein the step of inflating the bag inflates the bag to a volume corresponding to that of the container.

18. The method of Claim 12 wherein the step of inflating the bag brings the bag into contact with inside walls of the container.

19. The method of Claim 12 wherein the container is a beer keg that supports the bag relative thereto.

20. A method of filling an alcohol beverage into a bag contained in a container having a valve system mounted with the bag and container, and the valve system has first, second and third valves, the method comprising the steps of:

evacuating the container of air located between the container and the bag by applying a vacuum to the container through the first valve;

inflating the bag through the second valve with an inert gas selected from gasses that do not adversely react with the beverage;

filling the inflated bag with the beverage through one of the second and third valves; and,

venting the inert gas from the bag through another of the second and third valves.

21. The method of Claim 20 wherein the step of evacuating the bag of air continues during the step of inflating the bag with an inert gas.

22. The method of Claim 20 wherein the inert gas is CO₂.

23. The method of Claim 20 wherein the beverage is beer.

24. The method of Claim 20 wherein the inert gas is vented from the bag during the step of filling the inflated bag with the beverage.

25. The method of Claim 20 wherein the step of inflating the bag inflates the bag to a volume corresponding to that of the container.

26. The method of Claim 20 wherein the step of inflating the bag brings the bag into contact with inside walls of the container.

27. The method of Claim 20 wherein the container is a beer keg that supports the

bag relative thereto.

28. A valve and spear assembly for use with a container housing a bag adapted to be filled with an alcohol beverage, the valve and spear assembly comprising:

a valve body having first, second and third spaced apart passageways extending through the valve body;

a first valve seated in the first passageway for controlling the flow of one of charging gas and beverage through the first passageway;

a second valve seated in the second passageway for controlling the flow of one of charging gas and beverage through the first passageway;

a third valve seated in the third passageway that is for controlling the flow of pressurizing gas through the third passageway; and,

an elongated hollow spear extending from and connected in fluid flow communication with the first passageway, the hollow spear having an open end portion spaced from the first passageway.

29. The valve and spear assembly of Claim 28 wherein the first passageway has a tubular extension extending from the valve body and adapted to extend into the bag, and wherein the hollow spear is secured to the tubular extension.

30. The valve and spear assembly of Claim 29 wherein the hollow spear is secured to the tubular extension by interference fit.

31. The valve and spear assembly of Claim 30 wherein the spear has an outside diameter and the hollow tube extension has an inside diameter corresponding to the outside diameter of the spear whereby the spear is inserted into the hollow tubular extension by interference fit.

32. The valve and spear assembly of Claim 28 wherein each valve has a valve actuator for opening and closing the valve that extends away from the valve body and container by a different predetermined distance permitting for selective actuation of the actuators.

33. The valve and spear assembly of Claim 28 wherein one of the first, second and third passageways is centrally disposed of the valve body and the other two passageways are spaced radial thereof.

34. The valve and spear assembly of Claim 33 wherein the first passageway is the one passageway that is centrally disposed of the valve body.

35. The valve and spear assembly of Claim 33 wherein each valve has a valve actuator for opening and closing the valve that extends away from the valve body and

container by a different predetermined distance.

36. The valve and spear assembly of Claim 35 wherein the first passageway is the one passageway that is centrally disposed of the valve body.

37. The valve and spear assembly of Claim 36 wherein the valve body has an annular shape.

38. The valve and spear assembly of Claim 10 wherein the valve body has an annular ring adapted to extend above the container for mating with a dispensing adapter.

39. The valve and spear assembly of Claim 37 wherein the valve body has an annular recessed groove positioned within the container for receiving a neck of the bag in press fit relation therewith.

40. The valve and spear assembly of Claim 39 wherein the annular recessed groove has a diameter that surrounds the first and second passageways.

41. The valve and spear assembly of Claim 36 wherein the valve body has a recessed groove positioned within the container for receiving a neck of the bag in press fit relation therewith.

42. The valve and spear assembly of Claim 41 wherein the recessed groove surrounds the first and second passageways.

43. The valve and spear assembly of Claim 28 wherein the first, second and third valves each comprise stem valves having a valve piston and a valve head, each said valve stem is accessible from outside the container for moving the valve head into open and closed positions respectively enabling and inhibiting fluid flow through a respective passageway in the valve body.

44. The valve and spear assembly of Claim 43 wherein each valve head carries an o-ring for sealing against a surface of the respective passageway in the valve body and a spring seated in the respective passageway for urging the valve head into a closed position.

45. The valve and spear assembly of Claim 43 wherein each valve stem extends a different predetermined distance from the valve body to permit for selective actuation of the valves.

46. A container provided with a valve and spear assembly as Claimed in any one of Claims 28 to 45.

47. A valve assembly adapted for filling a bag with an alcohol beverage where the bag is contained in a container having an aperture, the valve assembly comprising:

a valve body adapted to be secured in the aperture, the valve body having first, second and third spaced apart passageways extending through the valve body;

a first valve seated in the first passageway for controlling the flow of one of charging gas and beverage through the first passageway into and out of the bag;

a second valve seated in the second passageway for controlling the flow of one of charging gas and beverage through the second passageway into and out of the bag; and,

a third valve seated in the third passageway for controlling the flow of gas through the third passageway into and out of the container exterior of the bag.

48. The valve assembly of Claim 47 wherein each valve has a valve actuator for opening and closing the valve, and the valve actuator extending away from the valve body by a different predetermined distance.

49. The valve assembly of Claim 47 wherein one of the first, second and third passageways is centrally disposed of the valve body and the other two passageways are spaced radially thereof.

50. The valve assembly of Claim 49 wherein the first passageway is the one passageway that is centrally disposed of the valve body.

51. The valve assembly of Claim 49 wherein each valve has a valve actuator for opening and closing the valve, and the valve actuator extending away from the valve body by a different predetermined distance.

52. The valve assembly of Claim 51 wherein the first passageway is the one passageway that is centrally disposed of the valve body.

53. The valve assembly of Claim 52 wherein the valve body has an annular shape.

54. The valve assembly of Claim 53 wherein the valve body has an annular ring adapted to extend above the container for mating with a dispensing adapter.

55. The valve assembly of Claim 53 wherein the valve body has an annular recessed groove positionable within the container for receiving a neck of the bag in press fit relation therewith.

56. The valve assembly of Claim 55 wherein the annular recessed groove has a diameter that surrounds the first and second passageways.

57. The valve assembly of Claim 47 wherein the valve body has a recessed groove positioned within the container for receiving a neck of the bag in press fit relation therewith.

58. The valve assembly of Claim 57 wherein the recessed groove surrounds the first and second passageways.

59. The valve assembly of Claim 47 wherein the first, second and third valves each comprise stem valves having a valve piston and a valve head, each said valve stem is accessible from outside the container for moving the valve head into open and closed

positions respectively enabling and inhibiting fluid flow through a respective passageway associated with the valve body.

60. The valve assembly of Claim 59 wherein each valve head carries an o-ring for sealing against a surface of the respective passageway in the valve body and a spring seated in the respective passageway for urging the valve head into a closed position.

61. The valve assembly of Claim 59 wherein each valve stem extends a different predetermined distance from the valve body.

62. A container provided with a valve assembly as Claimed in any one of Claims 46 to 60.

63. An alcohol beverage dispensing apparatus comprising:

a keg having an aperture;

a bag contained in the keg for containing an alcohol beverage; and,

a valve assembly comprising:

a valve body secured in the aperture of the keg, the valve body having first, second and third spaced apart passageways extending through the valve body;

a first valve seated in the first passageway for controlling the flow of one of charging gas and beverage through the first passageway into and out of the bag;

a second valve seated in the second passageway for controlling the flow of one of charging gas and beverage through the second passageway into and out of the bag; and,

a third valve seated in the third passageway for controlling the flow of a pressurizing gas through the third passageway into the container and exterior of the bag.

64. The dispensing apparatus of Claim 63 wherein each valve has a valve actuator for opening and closing the valve that extends away from the valve body and out from the container by a different predetermined distance.

65. The dispensing apparatus of Claim 63 wherein one of the first, second and third passageways is centrally disposed of the valve body and the other two passageways are spaced radial of thereof.

66. The dispensing apparatus of Claim 65 wherein the first passageway is the one passageway that is centrally disposed of the valve body.

67. The dispensing apparatus of Claim 65 wherein each valve has a valve actuator for opening and closing the valve that extends away from the valve body and container by a different predetermined distance.

68. The dispensing apparatus of Claim 67 wherein the first passageway is the one passageway that is centrally disposed of the valve body.

69. The dispensing apparatus of Claim 68 wherein the valve body has an annular shape.

70. The dispensing apparatus of Claim 69 wherein the valve body has an annular ring adapted to extend above the container for mating with a dispensing adapter.

71. The dispensing apparatus of Claim 69 wherein the valve body has an annular recessed groove positioned within the container for receiving a neck of the bag in press fit relation therewith.

72. The dispensing apparatus of Claim 71 wherein the annular recessed groove has a diameter that surrounds the first and second passageways.

73. The dispensing apparatus of Claim 63 wherein the valve body has a recessed groove positioned within the container for receiving a neck of the bag in press fit relation therewith.

74. The dispensing apparatus of Claim 73 wherein the recessed groove surrounds the first and second passageways.

75. The dispensing apparatus of Claim 63 wherein the first, second and third valves each comprise stem valves having a valve piston and a valve head, each said valve stem is accessible from outside the container for moving the valve head into open and closed positions respectively enabling and inhibiting fluid flow through a respective passageway in the valve body.

76. The dispensing apparatus of Claim 75 wherein each valve head carries an o-ring for sealing against a surface of the respective passageway in the valve body and a spring seated in the respective passageway for urging the valve head into a closed position.

77. The dispensing apparatus of Claim 76 wherein each valve stem extends a different predetermined distance from the valve body.

78. The dispensing apparatus of Claim 63 wherein the charging gas is carbon dioxide and the pressurized gas is air.

79. The dispensing apparatus of Claim 63 wherein the container has a collar flange defining the container aperture, the valve body has an outer wall with a recessed groove extending around the outer wall, and the valve assembly further comprising an intermediate ring having an inner and outer walls, the inner wall of the intermediate ring having a flange extending inwardly thereof adapted to fit into the recessed groove of the outer wall of the valve body, and the outer wall of the intermediate ring having a resilient barb and spaced locking flange defining an outer groove into which the collar flange of the container is held, and the barb passing through the aperture and springing back into locking engagement

with the collar flange to lock the valve assembly in place.

80. The dispensing apparatus of Claim 79 wherein the container has an anti-tamper ring overlaying the intermediate ring.

81. The dispensing apparatus of Claim 80 wherein the intermediate ring has an aperture into which a flange part of the anti-tamper ring is inserted so that if the anti-tamper ring is removed, the aperture vents the inside of the container outside of bag.

82. A valve assembly adapted for filling a bag with an alcohol beverage where the bag is contained in a container having an aperture, the valve assembly comprising:

a valve body adapted to be secured in the aperture, the valve body having a first passageway extending through the center of the valve body and at least one second passageway extending through the valve body radially spaced from the first passageway;

a first valve centrally seated in the valve body in releasable sealing engagement with the first passageway for controlling the flow of one of charging gas and beverage through the first passageway into and out of the bag; and,

a second valve seated in the valve body concentrically of the first valve in releasable sealing engagement with the at least one second passageway for controlling the flow of one of charging gas and beverage through the at least one second passageway into and out of the bag.

83. The valve assembly of claim 82 wherein the valve body has at least one third passageway spaced radially out from the first passageway and a third valve seated in the valve body concentrically of the first valve for controlling the flow of gas through the at least one third passageway into and out of the container exterior of the bag.

84. The valve assembly of claim 83 wherein the third valve is spaced radially and concentrically out from the second valve.

85. The valve assembly of claim 82 wherein each valve has a valve actuator for opening and closing the valve, and the valve actuators being radially spaced from each other and axially moveable independent of each other.

86. The valve assembly of claim 83 wherein each valve has a valve actuator for opening and closing the valve, and the valve actuators being radially spaced from each other and axially moveable independent of each other.

87. The valve assembly of claim 82 wherein the valve body has an annular shape.

88. The valve assembly of claim 87 wherein the valve body has an annular ring adapted to extend above the container for mating with a dispensing adapter.

89. The valve assembly of claim 82 wherein the valve body has an out-turned

annular flange supporting the bag and the out-turned flange having a diameter greater than that of the second passageway.

90. The valve assembly of claim 83 wherein the third passageway through valve body has an inner wall having a out-turned annular flange supporting the bag.

91. The valve assembly of claim 85 wherein the second valve is ring valve.

92. The valve assembly of claim 86 wherein the first and second valves each comprise a ring valve.

93. An alcohol beverage dispensing apparatus comprising:

a keg having an aperture;

a bag contained in the keg for containing an alcohol beverage; and,

a valve assembly comprising:

a valve body adapted to be secured in the aperture, the valve body having a first passageway extending through the center of the valve body and at least one second passageway extending through the valve body radially spaced from the first passageway;

a first valve centrally seated in the valve body in releasable sealing engagement with the first passageway for controlling the flow of one of charging gas and beverage through the first passageway into and out of the bag; and,

a second valve seated in the valve body concentrically of the first valve in releasable sealing engagement with the at least one second passageway for controlling the flow of one of charging gas and beverage through the at least one second passageway into and out of the bag.

94. The dispensing apparatus of claim 93 wherein the valve body has at least one third passageway spaced radially out from the first passageway and a third valve seated in the valve body concentrically of the first valve for controlling the flow of gas through the at least one third passageway into and out of the container exterior of the bag.

95. The dispensing apparatus of claim 94 wherein the third valve is spaced radially and concentrically out from the second valve.

96. The dispensing apparatus of claim 95 wherein the second and third passageways are annular.

97. The dispensing apparatus of claim 93 wherein each valve has a valve actuator for opening and closing the valve, and the valve actuators being radially spaced from each other and axially moveable independent of each other.

98. The dispensing apparatus of claim 94 wherein each valve has a valve actuator for opening and closing the valve, and the valve actuators being radially spaced from each

other and axially moveable independent of each other.

99. The dispensing apparatus of claim 98 wherein the valve body has an annular ring adapted to extend above the container for mating with a dispensing adapter.

100. The dispensing apparatus of claim 93 wherein the valve body has an out-turned annular flange supporting the bag and the out-turned flange having a diameter greater than that of the second passageway.

101. The dispensing apparatus of claim 94 wherein the third passageway through valve body has an inner wall having a out-turned annular flange supporting the bag.

102. The dispensing apparatus of claim 97 wherein the second valve is ring valve.

103. The dispensing apparatus of claim 98 wherein the first and second valves each comprise a ring valve.

104. The dispensing apparatus of claim 93 wherein the keg has an air passageway and has an air valve seated in releasable sealing engagement with the air passageway for controlling the flow of air through the air passageway into and out of the keg exterior to the bag.